DOCUMENT RESUME

ED 280 882 TM 870 212

AUTHOR	Anderson, Patricia S.
TITLE	The School Profiling Guide: Attitude Measurement.
INSTITUTION	Northwest Regional Educational Lab., Portland, Oreg.
SPONS AGENCY	Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE	Oct 86
CONTRACT	400-86-0006
NOTE	29p.
PUB TYPE	Guides - Non-Classroom Use (055)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Attitude Measures; Elementary Secondary Education; *Institutional Characteristics; Profiles; *School Attitudes; Self Concept Measures; *Student Attitudes; *Testing Programs; Test Interpretation; Test Manuals; *Test Results; Test Selection; Test Use
IDENTIFIERS	*School Profiles

ABSTRACT

This guide is part of a series designed to assist school personnel to profile their data to support local school decisions. The profiling process can be used in school improvement programs. This particular guide describes the measurement of student attitudes toward schooling, about one's schools performance, about feelings toward school as a place to learn, or about others' judgments of one's school performance. Criteria for attitude test selection are outlined, including test validity, community standards of appropriateness, provision of information by the test publisher, norms, age appropriateness, score reports, and instructions for interpretation. Planning of the data collection is recommended. Testing should occur within a week of the achievement testing, if attitudes and achievement are to be compared. Decisions must be made about who to test, whether the responses need be anonymous, additional biographical information needed, and scoring procedures. Standard procedures should be used for administering tests and recording data. Procedures for reporting and interpreting the data are illustrated, using Scott Foresman's School Attitude Measure as an example. Suggestions for evaluating the findings and developing goals are included. (GDC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

THE Northwest Regional Educational Laboratory

PROGRAM REPORT

ED280882

THE SCHOOL PROFILING GUIDE: ATTITUDE MEASUREMENT

Patricia S. Anderson

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

J. D. Kirkpatrick

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

with assistance from:

Marilyn Hartzell

October 1986

TM 870 212

Northwest Regional Educational Laboratory
300 S.W. Sixth Avenue
Portland, Oregon 97204

Sponsored by OERI Office of Educational Research and Improvement U.S. Department of Education

BEST COPY AVAIL

This publication is based on work sponsored wholly, or in part, by the Office of Educational Research and Improvement (OERI), Department of Education, under Contract Number 400-86-0006. The content of this publication does not necessarily reflect the views of OERI, the Department, or any other agency of the U.S. Government.

THE SCHOOL PROFILING GUIDE: ATTITUDE MEASUREMENT

Patricia S. Anderson

with assistance from:

Marilyn Hartzell

October 1986

The School Profiling Guide: Attitude Measurement

INTRODUCTION

This guide is the second in a series designed to assist school personnel to profile their data to support local school decisions. The profiling process is being used by many schools and districts as a tool for school improvement. An example of a school improvement process that includes school profiling is the Onward to Excellence program of the Northwest Regional Educational Laboratory (NWREL). The Onward to Excellence program stresses an ongoing cycle of developing school profiles, setting improvement goals, developing prescriptions or implementation objectives, monitoring progress and developing school profiles.

Profiling calls for staff members such as a school improvement team to identify appropriate profiling measures, collect the data, prepare the profile, state the findings, interpret the findings and set improvement goals. This process is outlined below:

THE PROFILING PROCESS

1. **PLANNING THE PROFILE**
2. **PLANNING THE DATA COLLECTION**
3. **COLLECTING THE DATA**
4. **PREPARING THE DATA TABLES**
5. **REPORTING THE RESULTS**
6. **DEVELOPING NARRATIVE STATEMENTS**
7. **EVALUATING THE FINDINGS**
8. **DEVELOPING GOALS**

This guide describes the profiling process using measures of student attitude. Student attitude measures are affective factors that have been increasingly recognized as influential to the teaching and learning process (Bloom, 1976, Walberg, 1974, Brookover, et. al., 1967). Walberg's (1974) comment is illustrative: "If the school is to be successful in influencing a person's behavior after he has completed his formal education, then the development of positive affective responses toward learning and school-related skills is of major importance" (p. 99).

The effective schools movement has identified three characteristics of effective learning climates: (1) ideology of the school (e.g., general beliefs, norms, feelings which characterize the system); (2) organization of the school and (3) instructional practices (Brookover, et. al., 1967).

The import of this depiction is that effective schools have students who believe that school is a place to learn and believe in their ability to learn. In contrast, when students feel out of control in relationship to the learning process they lower their expectations and perform accordingly. How children feel about their school, teachers and themselves as learners is an important outcome in itself as well as an aid to understanding other school outcomes.

1. PLANNING THE PROFILE

In planning the profile of school outcomes there are many choices. Deciding what to look at and how to look at school outcomes are two essential features of the profile planning. This guide focuses on the profiling of attitudes as an important feature in describing educational outcomes.

Before moving on to the various formats for presenting the data, an explanation of the role of student attitudes as a profiling outcome will be presented. Information on will be provided on why we study student attitudes concerning school, how attitude measures are different from other measures, whose attitudes should be measured and what we can infer from the findings. Following this will be some background on measuring attitudes including the selection of instruments. Finally, we will discuss planning the data collection, collecting the data and portraying the results. Each of these points presents questions that should be answered in planning the school profile.

What is an attitude?

Most of us are familiar with the three aspects of our humanness: thinking, feeling and acting. We measure thinking through achievement tests, actions through behavioral observations and feelings through attitude measurement. Our measuring capacity has been fairly well developed for measuring achievement skills and behaviors. Measuring our feelings, however, has generally lacked credibility as a concept and as a valid school measure of school effectiveness. Our feelings are viewed as more private, intangible, more transitory in both focus and intensity.

Attitudes have been described as feelings of a positive or negative nature toward an external or internal object. Thus, examples of statements that reflect attitude are "I like school," "Doing well in math will lead to a well paying job," "The study of math develops discipline" and so on. External objects can be the school, courses of study, other students in general or in particular, the teachers, principal or education. Internal objects are primarily the self. Concepts such as self-esteem, self-worth or self-concept refer to the collection of feelings about one's performance or reactions to an environment.

For purposes of planning the profile, it may be very important to develop a working definition of attitude and its use in the school profiling process. There are those who finely distinguish between attitude, belief, value and opinion. There are those who distinguish feelings toward external objects from the feelings toward the self. The definitional emphasis and focus should balance the need for relevant information on student attitudes toward school with the privacy or non-disclosure concerns of students and families that could emerge when attitude testing includes items covering self-esteem or general values or beliefs.

For our purposes, we define these attitudes as *a collection of evaluative predispositions, based on direct or indirect experience, toward schooling, about one's school performance, about one's feelings toward school as a place to learn, or about others' judgments of one's school performance.*

Why study student attitude concerning school?

Only recently have those interested in school accountability encouraged measuring student attitudes as an important consequence of education. In addition to being an important outcome of the educational process, they believe that how one feels about schooling and one's ability to interact in the schooling process affects both school behaviors and school achievement. Thus, attitudes are an <u>end</u>–or outcome–of an educational program and a <u>means</u>–or explanation–to other measured outcomes.

The inclusion of an attitude measure in the school profile allows you to:

- o examine the results of school objectives aimed at change in attitudes about school (e.g., confidence building, sense of achievement, positive peer relations, etc.)
- o compare student attitudes over time
- o compare school level scores with other schools, and national norms
- o explain changes in achievement scores
- o explain changes in school behaviors (e.g., attendance, tardiness)
- o explain differences among various subgroups in achievement, behavior or other school outcomes
- o examine student reactions to new curriculum, programs, facilities, etc.

This information allows school personnel to make more informed decisions regarding school policies or practices that may affect student attitudes concerning school and school achievement.

How is measuring school attitudes different from measuring achievement or behavior?

Measurement of achievement has a long history and there is general acceptance of what kinds of questions represent cognitive growth and development. The measurement of behaviors is deemed important to the educational process and includes counts of behavioral occurrences such as absences, tardiness and so on. Attitude measurement is more difficult because we must <u>infer</u> the attitude from statements or behavior. Many times what is said and the accompanying behaviors do not seem to correspond. For example, a student may report that he "likes school" but is constantly fighting on the playground, late to class or absent entirely. In this case, the stated feeling and behaviors seem to contradict.

Students oftentimes respond to questions posed to them in the way that they think they should answer rather than the way they really feel. This is described as responding in a socially desirable way. Students know they are to provide the "correct" answer to an achievement test. They often transfer that pattern to an attitude test. Additionally, a student may not interpret a question the way it was intended. For example, a student

may respond affirmatively that he "likes school" - even though he does not like school this year - he did last year, so he feels he generally " likes school." His other behaviors this year may reflect his current dissatisfaction, yet he has misunderstood the instructions to respond to his present feelings. This is much less of a problem with the cognitive skill questions.

This lack of congruence between observed behavior and responses on a test or responding in a socially desirable way are each threats to the validity of the test instrument; that is, whether the test instrument is measuring what it is supposed to measure. A test of school related attitudes should measure the student's feelings concerning school not attitudes viewed by the student as desirable or "acceptable." Attitude instruments, in contrast to achievement instruments, have lower validity and reliability.

Reliability refers to the instrument measuring the same thing over time. Thus, consistency or the ability to get the same score if the test were to be repeated is important. An achievement instrument that would produce widely fluctuating scores for students would not be helpful. Similarly, an attitude instrument must provide some consistency so that school staff can draw some conclusions. Measurement of attitudes, particularly in the school situation is a rather recent notion. It may explain other behaviors and achievement but it suffers from definitional specificity and concerns over validity and reliability.

What characteristics of attitude should you measure?

It is important to know the characteristics of attitude you wish to measure as you select or develop an instrument. For example, if the goal of the school program is to reduce racial or economic prejudices, then a measure of inter-group attitudes would be appropriate. If school personnel were interested in general self-esteem of the students, then a measure of self-esteem would be appropriate.

Beyond the general goals for the use of an attitude measure is the determination of the focus of the instrument. Should the instrument look at attitudes toward specific aspects of the school situation such as math, the bilingual program, new teachers, the principal, etc.? Or should the focus be on more global attitudes toward school in general, teachers in general? Some school personnel prefer to know how the students feel about the specific aspects of schooling so they can work on those areas where they feel there are deficiencies. Others prefer to know only general attitudes toward school or the student as a learner. The difficulty in the general approach is that the school staff have less to go on to make changes. A student with a distaste for a particular teacher or particular course may report negative attitudes toward school on questions about school in general However, if asked about specific courses or "some" teachers, more positive attitudes may be discerned.

How do you measure attitudes?

Once the general approach or focus of the testing has been determined, then the type of measurement should be decided. Tests of attitude range from those that are more objective (paper and pencil responses to questions) to those that are subjective (behavior ratings by others, diaries, logs, journals) to those that are more projective (sociometry, ink blots).

For purposes of the school profile, two methods are suggested, paper and pencil tests and behavioral rating scales. Of these, the paper and pencil tests are easiest to

administer, since it takes the least amount of time, and requires less inference. However, for younger students, a well-designed behavior observation could be a better instrument.

Whose attitudes should be measured?

The literature on effective schools concludes that school climate or school attitudes are influenced by and influence students, teachers, school staff and parents. Teachers' expectations of students, their views of themselves as teachers, their support from their superiors and their resources to do the job, all influence how they approach the classroom situation. Should the profile include teacher attitudes?

Parental attitudes are even more powerful in some cases. We know students who drop out of school often have parents who dropped out of school. Do parent attitudes toward the value of school play a part in the student's attitude? The introduction of new programs such as busing or mainstreaming may produce strong attitudes or actions in parents. Parental attitudes toward school policies such as homework or detention may affect the way students view such policies. Should the profile measure parental attitudes?

The focus of education, however, is on the student. Measuring student attitudes will reflect how the students feel. In order to fully understand student attitudes, we may want to measure how parents, teachers and school staff feel.

Should you use existing or locally-developed measures?

Since the measurement of attitudes does not have the history of achievement testing, there are fewer "industry standards" than with achievement tests. While there are not common or widely-used attitude tests, still, there is no paucity of instruments. Many of these instruments, however, were developed for other purposes inconsistent with school profiling.

Whether to purchase a test or develop your own instrument depends on school objectives and the focus of the profile. A very simple attitude measure could be one question that asks students, "On a scale of one to ten, with ten being very positive, how do you feel about this school?" You might find out that 60 percent of the students rated the school 8 or better, while 40 percent of the students rated it less than 2. We can conclude that most of the students feel very positive about this school, but a good number feel very negative. Are these students at risk of dropping out? Are these students doing well academically? Further examination of the lower rating students may suggest either to focus on particular students or programs.

Whether one question or several, a locally-developed test can measure more closely what you wish to measure, can be more brief, easier to score and cheaper than a test purchased from a publisher. Over time the answers to specific questions and the index of questions may prove to provide the nuances of change that are viewed as more specific to the local situation. The difficulties in using locally-developed measures in this area are similar to those the committee would encounter if they made up the achievement test. There would be no norms with which to compare the school scores, no standardization or weighting of the scores, no elimination of redundant measures and so on. You would have to field test the instrument to ensure that the reading levels were appropriate and the students understood the intent of the questions. If the purpose is to understand general opinion or attitudes toward schooling and learning a locally-developed instrument may be appropriate. For example, in measuring parental

attitude towards the school or program changes, a locally-developed survey with both objective and attitude questions may be more appropriate. The following contrast may be helpful:

	Locally Developed Tests	Publisher Developed
Advantages	Cost Brevity Specific Focus	Norms provided Assistance with interpretation Standardization
Disadvantages	Interpretation problems Potential problems with reading levels.	Higher cost Time delays in scoring

What are some criteria for test selection?

There are several sources listed in the references of this guide that offer reviews of attitude instruments. Committee members should develop guidelines and review potential instruments so that they reflect the interests and goals of the profiling process. The following questions should be asked about each instrument:

- Does the instrument focus on the definition or focus of attitude that we are interested in measuring?
- Do the questions measure what we are interested in (face validity)?
- Does the instrument measure global attitudes or specific attitudes?
- Will the focus of the questions be deemed appropriate by parents and community members?
- Does the test publisher provide information on validity and how it was determined; on reliability and how it was determined?
- Does the test include forms and norms for all of interest? How was the norm group selected? How many students were tested? What time of year was the test normed?
- Are the items suitably worded for the indicated age groups?
- How are the scores presented? Can a total school score be obtained? Grade level scores?
- Did the norm group complete the test on an anonymous basis. Does the instrument require anonymity?
- Are there clear instructions for interpreting the results?

2. PLANNING THE DATA COLLECTION

Once the committee has decided on the focus of the attitude testing and has selected or developed their own measure (and field-tested it), then the data collection should be planned. This is an extremely important aspect of the profiling process. The planning of the data collection determines the breadth of information that can be presented. It is during the planning for data collection that the information beyond the test scores and the methods for summarizing and analyzing the data are determined.

When should you test?

In using an attitude measure for the school profiling process, it is important to give the instrument to the students within a week or so of the achievement testing, if attitude will be compared to achievement test scores and relationships are to be drawn. If attitude affects achievement and vice versa, then both attitude and achievement measurement should occur as reasonably close together as possible.

Just as achievement tests present norms based on fall, winter or spring testing, so do some attitude measures. Some do not. It is important to know when the test was normed. As the school year progresses it is expected that both general and specific attitudes may change. If a locally developed instrument is used, then administering it at the same time of the year will be important to the reliability of subsequent analyses.

Who should be included?

In addition to determining what groups should be tested, e.g., teachers, students, parents, it is important to decide how many should be tested within each school. If you are generating a school profile is it necessary to test all students in all grades? The answer will be determined by the goals of the profiling process and the time and resources of the school. Even though achievement testing may not be undertaken in every grade, the information from each grade on the attitude instruments may be very helpful in understanding the developmental nature of school attitudes and their relationship to behavior, subgroup identification and the like.

Should the responses be anonymous?

Many of the instruments that you will examine will suggest that the students' responses be anonymous. This is done for several reasons. Among them are the assumption that the students will be more honest and teachers will not be able to penalize students for their answers.

Whether students are more "honest" in their reporting when the testing is anonymous is open to some debate. Some students are known to provide wild guesses or outrageous responses because they are not identified with the responses. Whatever the reasons for anonymity, if the test is anonymous, it is important to the planning that information for further analysis be collected with the attitude testing. These items will include information desired to further explain the testing results. An anonymous attitude test may include such demographic information as age, grade, sex, and as much information as deemed appropriate. Unless the information is collected from the students at the time of testing, later subgroup analysis is impossible.

What other subgroup information is needed?

While the school profile focuses on schoolwide results, it is important to plan what further information is desired in order to more fully explain the profile. For example. one school profile could show the results of the eighth grade testing with the average percentile score on an achievement test as 62nd percentile and the average percentile score on the attitude test as 58th percentile. Information from the test developer may provide some interpretive insights on both scores but the profile would provide little other information unless that information had been collected for further analysis.

In general, educators wish to determine differences between students in different academic programs, specially funded or experimental projects, or those influenced by differing curriculum or teaching methods. Sometimes differences between girls and boys, economic subgroups, ethnic subgroups or language subgroups are of interest. It may be of interest to note student mobility, teacher tenure or achievement influences the results. It is absolutely necessary to identify ahead of time the related information that you need. If the attitude tests are anonymous, there is no way to gather this information later. If they are not anonymous, gathering the information later will be time-consuming.

If this is the first school profile, we suggest that the committee select a few levels for further analysis. The school profiling process is not intended as a fishing expedition for useful research results. As the process is completed, suggestions for subsequent year analyses may emerge.

Should you score the instruments yourself?

A final issue to resolve is how you will score the instruments. If the test is locally-developed test, you will have to score the instruments or seek a scoring service bureau. If the test is from a test developer, there is usually an option for teacher scored or test developer scored. Some attitude tests are extremely difficult to score because the questions are phrased to reduce their social desirability. Using a test scoring service adds cost and time to the process but provides accuracy and precision.

3. COLLECTING THE DATA

Most test administrators are aware of the necessity to follow the test publisher's instructions with great care when presenting the test materials to the students. The same degree of attention is needed for the administration of attitude test instruments. How you present the attitude testing to students and the proper recording of the data are essential to your profiling techniques.

How should you present this to students?

It is important to set the stage for the attitude test, particularly if this is the first time that students in the school will be responding to this type of instrument. The teacher should either read the instructions provided by the test maker if it is a test provided by a publisher or explain the testing rationale and procedure of locally-developed tests. All teachers need to agree on the importance of the test and comply with a standard procedure.

How can you ensure that the demographic data is recorded correctly?

Careful attention to the presentation of the instructions for completing the instrument and providing the required information for the analysis is essential. If the instrument is being provided with the names of students, then the name must clearly appear on the instrument. If the instrument is being provided anonymously, then the additional information required for later analysis should be gone over item by item with the students. At each item, the test administrator should ask if there are questions concerning that item. A good practice is for the test administrator to walk around the room while identifying the information that the students need to complete.

Following the test administration, the test administrator should go over the instruments making sure the information is clear and complete.

4. PREPARING THE DATA TABLES

Once the data are collected, they must be recorded for reporting and interpretation. In the next several pages of this guide we will be illustrating the process with examples from the School Attitude Measure (SAM), a test developed by Scott, Foresman and Company, 1980 and now available through American Testronix. The SAM is a norm-referenced test that is specifically designed to examine several dimensions of student attitude. The five scales are:

Scale A: Motivation for Schooling measures the effect of students' reactions to their past school experience and their relation to motivation in school. The value of school, its desirability and importance are aspects of this measure.

Scale B: Academic Self Concept - Performance Based reflects student confidence in their academic abilities and their feelings about their school performance.

Scale C: Academic Self Concept - Reference Based focuses on how students think others (teachers, family, friends) feel about the students' performance and ability to succeed academically.

Scale D: Student's Sense of Control Over Performance is concerned with students' feelings about being able to exercise control over situations that affect them at school and to take responsibility for the outcome of events such as grades or promotions.

Scale E: Student's Instructional Mastery reflects the students' report of their actual school skills. Included are their assessment of their ability to use time wisely, persistence in instructional tasks and the like.

There are three levels of the SAM: Level 4-6 rated at a fourth grade reading level, Level 7-8 rated at a fifth-sixth grade reading level and Level 9-12 rated at a seventh-eighth grade reading level. Student scores are presented by Weighted Raw Score (WRS), national percentile (NP) and local percentile (if all schools in the district are tested). Scores are also presented by classroom and grade.

The test was standardized in the fall of 1979 using 28,000 students from both public and private schools. Reliability was .91 to .95. Test-retest taken four weeks apart gave a reliability from .80 to .89.

In addition, for our illustration, a locally-developed test was made up to give to teachers. The Teacher Test consisted of asking the teachers to estimate the percentage of students in their class who feel positive about each of the scales in the SAM. The descriptions of the SAM scales were provided with a place to give their estimate.

Data provided are intended to be illustrative and instructive. They are reflective of Sample School, Anytown, USA.

How do you tabulate the data?

There are only two methods for tabulating the data–by hand and by computer. Tabulating the data by hand can be time consuming and subject to errors in coding and recording. If, however, the number of students is small and computer equipment is not available, it is probably the most inexpensive and practical.

For hand tabulations, forms should be developed that will allow you to sort the responses by the categories you predetermined in the planning process. Figure 1 is an example of two tally sheets. The scores, provided by the publisher, are placed on the sheet by the corresponding category. When all of the scores are placed by the appropriate category, they are totaled and divided by the number of scores to get the average.

Figure 1

Tally Sheets for School Attitude Measure

Number	Scale A	Scale B	Scale C	Scale D	Scale E
Fifth	42,43,	48,45,	34,38,	42,41,	51,50,
Boys	36,45,	41,48,	33,44,	36,50,	48,53,
	..,...,	..,...,	..,...,	..,...,	..,...,
12	Ave=45.5	Ave=40.2	Ave=...	Ave=...	Ave=...
Fifth	31,45,	65,50,	45,50,	40,33,	46,43,
Girls	29,36,	41,45,	37,54,	39,52,	34,48,
	..,...,	..,...,	..,...,	..,...,	..,...,
37	Ave=47.2	Ave=...	Ave=...	Ave=...	Ave=...
Fifth	21,23,	28,13,	33,45,	31,28,	25,31,
Hi Mobility	9, 22,	19,11,	22,31,	18,14,	11,9,
	..,...,	..,...,	..,...,	..,...,	..,...,
25	Ave=...	Ave=...	Ave=...	Ave=...	Ave=...
Fifth	53,65,	64,41,	48,55,	71,45,	56,66,
Lo Mobility...	71,48,	53,45,	61,76,	66,65,	53,53,
	..,...,	..,...,	..,...,	..,...,	..,...,
47	Ave=...	Ave=...	Ave=...	Ave=...	Ave=...

The above tabulation reflects placing each score more than once on the tally sheet. This cross-tabulation is the essential feature of discovering relationships among the categories.

Hand tabulation has one major drawback. Each score is placed more than once on the tally sheet. The individual results must be repeatedly tabulated when identifying each student by the several categories. In Figure 1, a student who is a boy and who just moved to the district would have each scale's percentile entered two times. While this cross-tabulation is an essential feature for discovering relationships among the categories, one can easily see that adding categories and students could make hand tabulation an undue burden. An alternative is to enter all of the information on a personal computer or on a mainframe computer. For personal computers, there are several programs that provide relatively easy data entry, table presentation and graph presentation.

How should you present the data tables?

Presenting the data in tables is always a judgment choice. Most people do not readily interpret data presented in a table, particularly if there are a lot of numbers presented. If you desire to present tables in the text, it may be a good idea to present no more than four categories in each table. Table 1 is an example of the data presented on the subscales of the SAM for each grade.

Table 1

Fifth, Sixth and Seventh Grade Results
School Attitude Measure
Weighted Raw Score Average

	Scale A	Scale B	Scale C	Scale D	Scale E	
Fifth	45	39	39	43	43	N =62
Sixth	46	40	40	45	46	N =58
Seventh	50	44	43	47	46	N =121

The data in Table 1 is a description of each grade's average raw score on each subscale of the SAM. It is descriptive for each grade. It is also comparative in that it includes more than one grade. You will note that with raw scores comparisons can be made by grade level for each scale but **not** within grade level from scale to scale. This comparison is done when the scores are converted to percentiles.

Table 2

Fifth, Sixth and Seventh Grade Results
School Attitude Measure
National Percentile Scores

	Scale A	Scale B	Scale C	Scale D	Scale E	
Fifth	44%	40%	46%	50%	42%	N =62
Sixth	49%	46%	53%	50%	62%	N =58
Seventh	40%	40%	35%	38%	44%	N =121

Another way to present the data is to provide the percentage of students from the norm group who had this score or lower. The SAM describes this as the National Percentile Rank. Table 2 presents the National Percentile of the average of the raw scores for each grade. The data from the Tables 1 and 2 could be presented together, however, there would be many numbers which could confuse rather than enlighten the reader. The committee will have both the average Raw Score and the National Percentile. Since the percentile score is commonly presented in both achievement and other tests, it may be the best choice for presentation. If you choose to graph several measures on the same graph, e.g., achievement and attitude, using a common scale will be necessary for clarity and understanding.

It may be desirable to report the data based on additional demographic or subgroup information. Table 3 presents one of these alternatives.

Table 3

Fifth Grade Results
National Percentile Ranks for Boys and Girls

	Scale A	Scale B	Scale C	Scale D	Scale E	
Boys	49%	47%	46%	50%	42%	N=12
Girls	55%	55%	52%	44%	54%	N=37

Additional care is needed in recording whether the fifth grader was a boy or girl. Tables 1 and 2 indicate that there were 62 fifth graders who took the test, yet scores identified by sex are available for only 49 students as presented in Table 3.

For many people, the table presentation will not be as easy to understand as presentation using graphs. If graphic presentations are planned, the tables from which the information is drawn should be included in an appendix. We will now turn to reporting using graphs.

5. REPORTING THE RESULTS

Choosing from the many potential ways of presenting the data will be an important component of the profiling process. What you choose to present will guide the conclusions, interpretation, and, perhaps, even future action . Previewing and presenting the results will be discussed.

How do you preview the results?

Previewing the results will follow closely the planning for data collection. Data should be presented for the grade level itself, for the school, and broken down by subgroups. The purpose of this activity is to determine the important or distinguishing information. For example, if you had decided to look at the differences between boys and girls at each grade level and the results indicated that the differences seemed insignificant, then presenting that data table or graph would just take up space. A comment in the text would help the committee and others know that sex differences were reviewed with no differences being noted.

What are the most important presentations?

Many attitude instruments offer individual scores and guidance for interpretation. Since we are concerned with the school profiling process, we encourage the reader to consult the administrator's guide included with the attitude instrument or other texts cited in the references of the guide for information concerning individual interpretation. Individual interpretation, of course, would not be available if students responded anonymously.

In presenting the data from your school it will be helpful first to describe the school, its location, its economic or ethnic representation, types of programs and so on. Table 4 presents the information from our Sample School.

Table 4

School Characteristics
Sample School 1985-6

Community: Lower economic industrial area near large city

School Characteristics: Facility 22 years old; renovated 6 years ago

Students at each grade level:

1	2	3	4	5	6	7	8
25	31	58	63	62	58	121	118

Sex ratio: 51% girls; 49% boys

SES: Upper 8%
Middle 53%
Lower 39%

Mobility: (4th grade and up)	New this year	21%
	Completed 1 yr	18%
	2 yrs	17%
	3 yrs	19%
	4 yrs	25%
Teacher Mobility:	New this year	25%
	Completed 1 yr	5%
	2 yrs	5%
	3 yrs	10%
	4 yrs+	55%

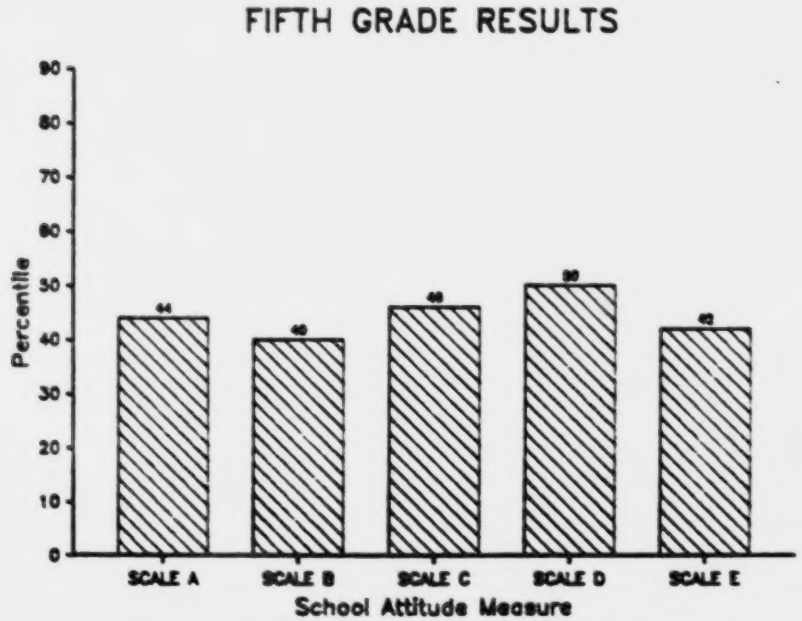
It is important to note that data are often not useful unless they are compared with some other data or information. This process of comparison allows interpretation. The following types of comparisons are discussed: analysis in relationship to norms; analysis over time; analysis by subgroups and analysis with other measures.

Analysis in relationship to norm groups.

In standardized tests, the test publisher will provide the information on the norm group, e.g., how many, demographic characteristics and the like. The test publisher tries to obtain a representative group at each grade level. Schools are selected to be representative of the various regions of the country, reflecting variation in size of the district, urban/rural composition, socioeconomic status, and ethnic composition. In many instances, norms or data within each of these areas are not offered. Rather, statements are made assuring representation, e.g., that rural, urban and suburban areas were included in the norm group.

In comparing the school to a national norm group, the mean score of the grade is considered the average score of that group. The mean score can be translated to a percentile rank. That is, the average score of a group of students at the 58th percentile. means that the average student in this class has a more positive attitude than 58 percent of the national sample. Figure 2 presents data from Table 2 displaying the fifth grade percentile ranks for each of the scales of the SAM. Figure 3 presents all three grades.

Figure 2



While the information in Figure 3 includes information from Figure 2, very different statements can be made about the two figures. In Figure 2, the focus would be on the fifth grade and the norm group. Narrative statements would focus on the relative standing of the fifth grade.

Figure 3

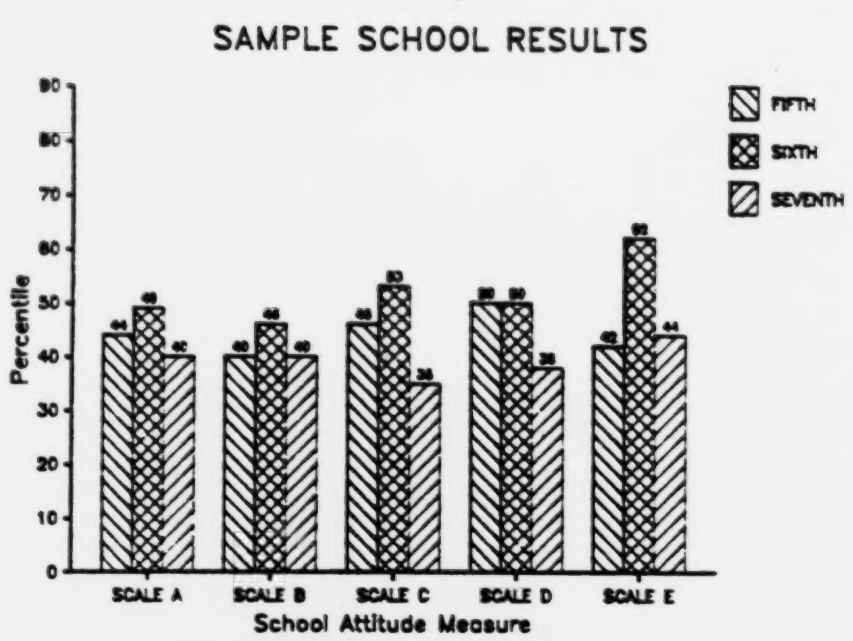
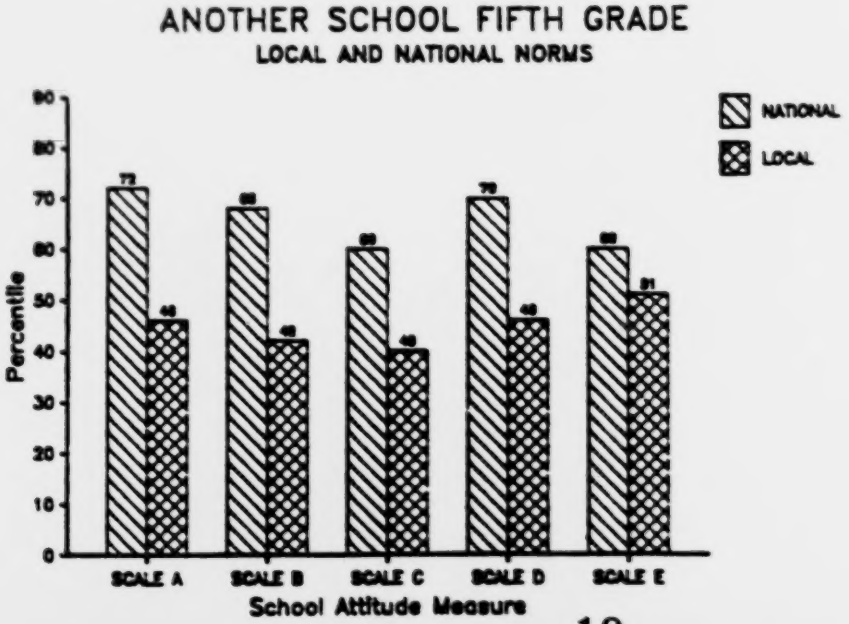


Figure 3 presents the audience an opportunity not only to compare the results of the fifth graders to the norm group, but also to the sixth and seventh graders. Questions such as "Do attitudes improve toward schooling as students get older?" "Are there particular scales that have greater improvement, less improvement?" can be answered.

In addition to national norms, many times publishers present norms from the local school district. Thus, comparisons of results can be made to the local group of schools and the national norms. Figure 4 represents data from "Another School" where both national and local norms were available.

Figure 4



"Another School," Somewhere, USA, represents a more affluent suburban district. In this figure the students' average percentile rank is high compared to the national norms and low compared to the district scores.

The SAM does not provide the score reports by a quartile distribution. However, this information may be very useful to understand the percentage of students in each grade who are scoring "low" or "high." In order to accomplish this with the SAM, each student's percentile score would have to be tallied. Table 5 presents such an example.

Table 5

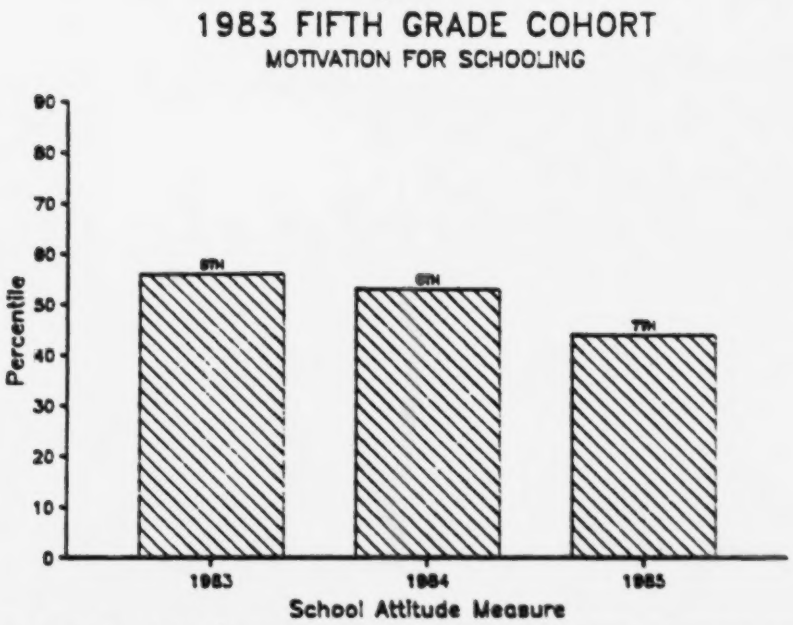
Recording Student Results in Quartiles

Students scoring Between	Tally	Total	Percent of Total
1 and 25 percentile	𝍸 III ...	21	34%
26 and 50 percentile	𝍸 𝍸 I	19	31%
51 and 75 percentile	𝍸 I ..	13	21%
75 and 100 percentile	𝍸 IIII	9	15%

Analysis over time

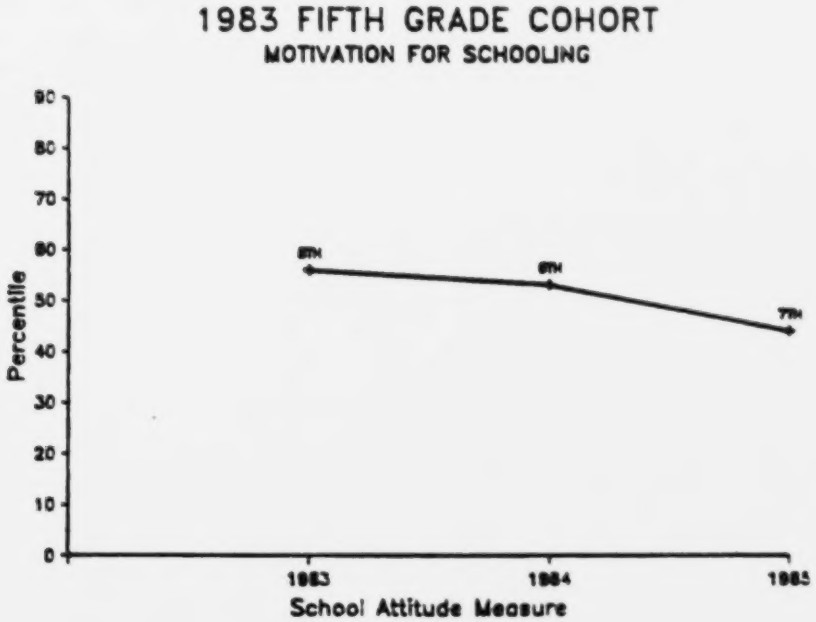
Analysis over time provides an opportunity to note changes in school attitude in the same students. This is different from comparing the fifth grade this year to the sixth or seventh. Teachers are familiar with the fact that certain grades are more positive or negative than others; there is a grade "culture." Figure 5 presents data from "Sample School" where the SAM was given to the fifth grade in 1983 and subsequently through 1985. Thus, this figure presents the same students over three years. This figure portrays data for only one scale of the SAM, the Motivation for Schooling scale.

Figure 5



Generally, when you want to show trends over time it is convenient to use a line graph. Line graphs leave the impression that there is a continuous relationship being displayed. You can note the difference between the bar graph shown in Figure 5 and the line graph shown in Figure 6.

Figure 6



Analysis by subgroups

Following your data analysis planning, you will want to present the data by various subgroups. Figure 7 presents data from Table 3. You can note the visual advantage of the graphic presentation.

Figure 7

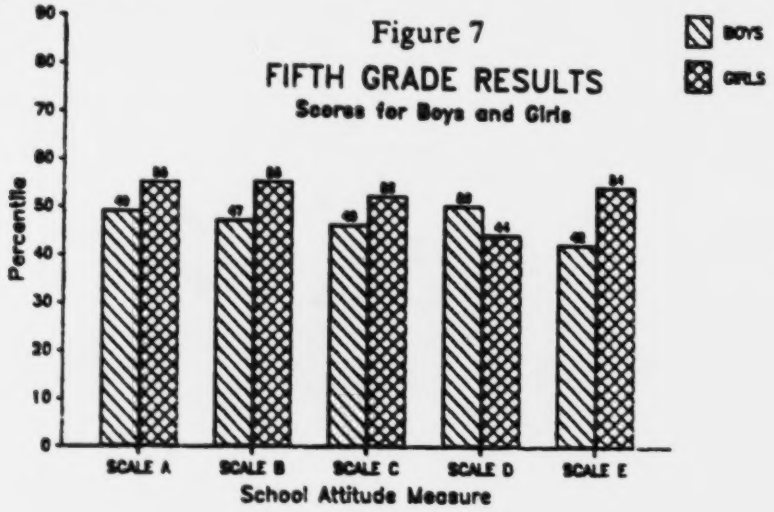
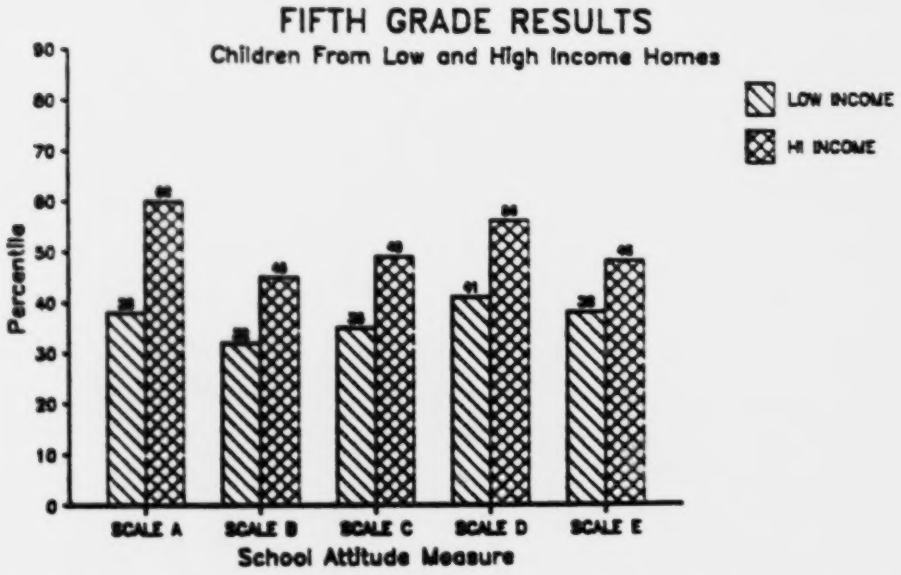


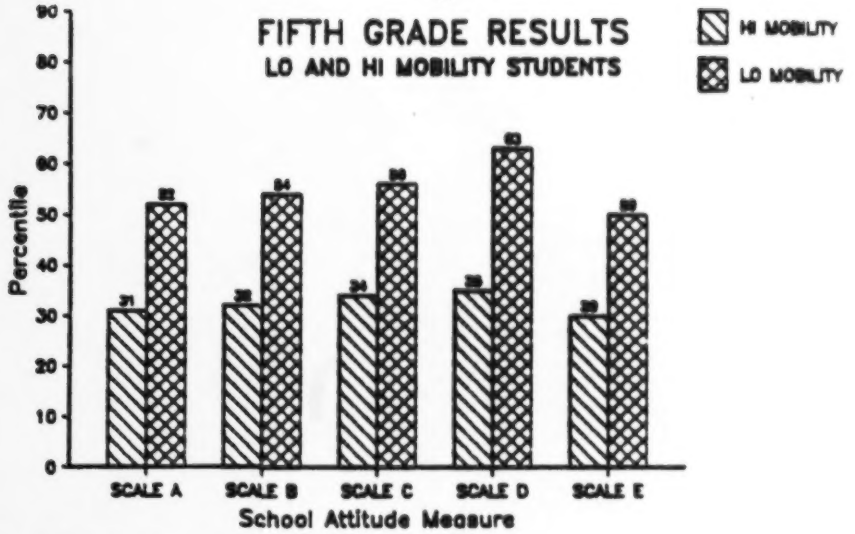
Figure 8 illustrates graphically the differences between low and high income fifth graders.

Figure 8



Since the Sample School had a number of students moving in and out, comparisons were planned for high mobility and low mobility students. Figure 9 depicts these results.

Figure 9



Analysis with other measures

Finally, in the planning for the profile, the Sample School committee determined that they would examine the relationship between teacher estimates of attitudes and the results of the SAM, and the results of the SAM with the results of the Metropolitan Achievement Test (MAT) test given the fifth grade. These results are presented in Figure 10 and Figure 11.

Figure 10

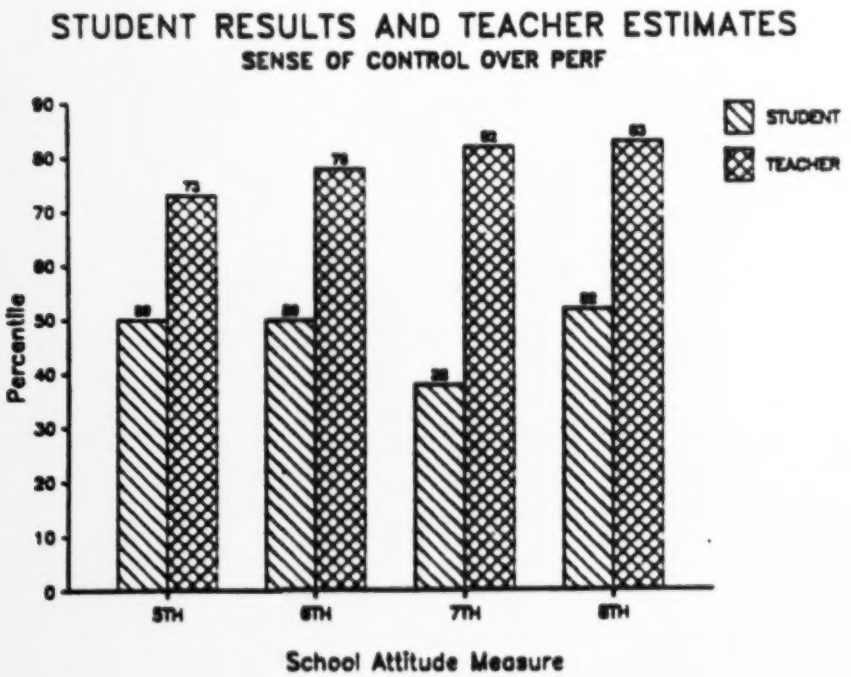
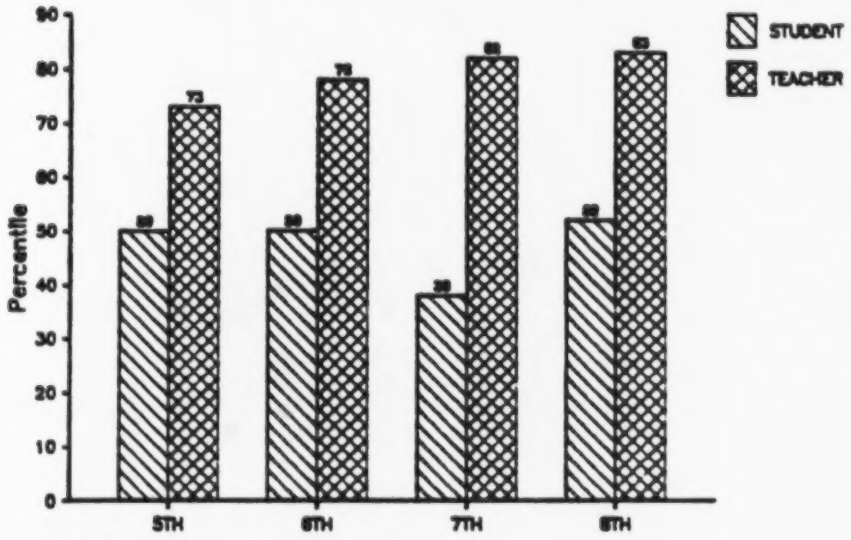


Figure 11

STUDENT RESULTS AND TEACHER ESTIMATES

SENSE OF CONTROL OVER PERF



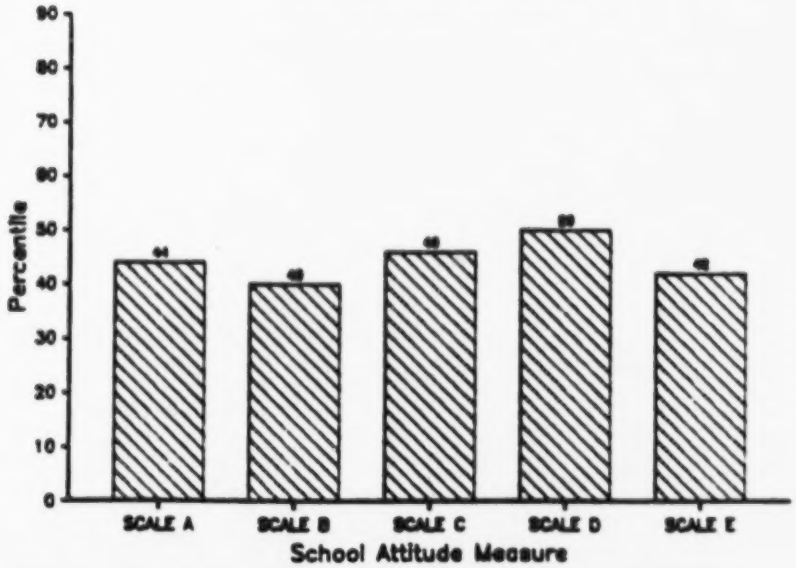
6. DEVELOPING NARRATIVE STATEMENTS

When presenting the graphs or tables in the profile, it will be necessary to present a narrative description of what the graph portrays. This is not the place to draw conclusions, but to present the key findings that quickly place all readers on the same level with respect to the graph.

We will return to some of the earlier presentations. Figure 2 is presented again with narrative statements.

Figure 2

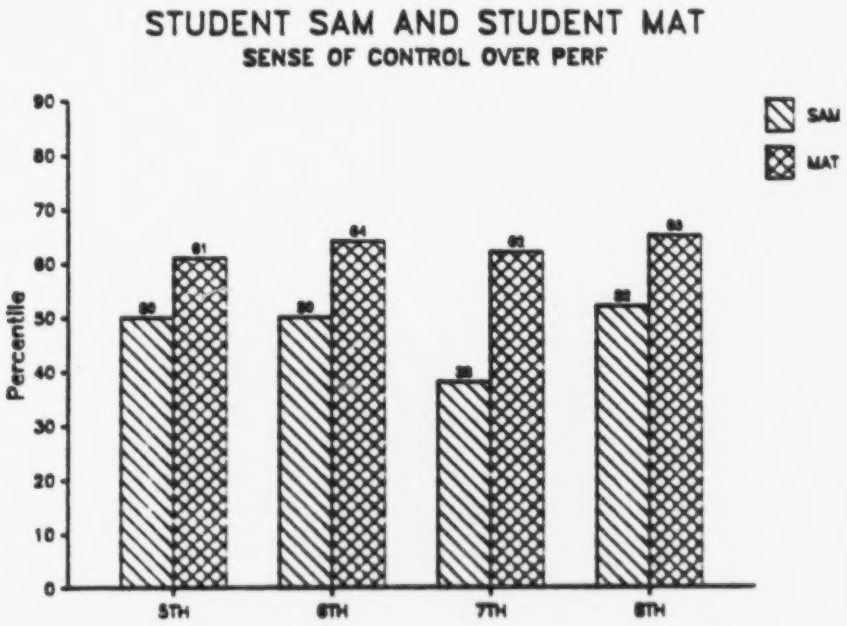
FIFTH GRADE RESULTS



- Students in this fifth grade scored at the national percentile average on Scale D. student's Sense of Control Over Performance.
- Students scored lower than the national average in Motivation For Schooling (Scale A); Academic Self Concept-performance Based (Scale B); Academic Self Concept-Reference Based (Scale C); and Students' Instructional Mastery (Scale E).
- Students scored the lowest in comparison to national averages on the scale that measures their perception of their ability to do tasks competently (Scale B).

Figure 11 is presented with narrative statements:

Figure 11



- While students scored lower than average compared to national percentiles on their sense of control over performance, they scored above average on the achievement test (MAT).
- The discrepancy between sense of control over performance and achievement is the greatest at the seventh grade.
- The sixth to seventh grade decline on the measure of control over performance is reversed in the eighth grade.

You will note that some of the narrative statements presented above could be presented in other figures as well. There will be some redundancy when for comparison purposes information is presented on more than one graph.

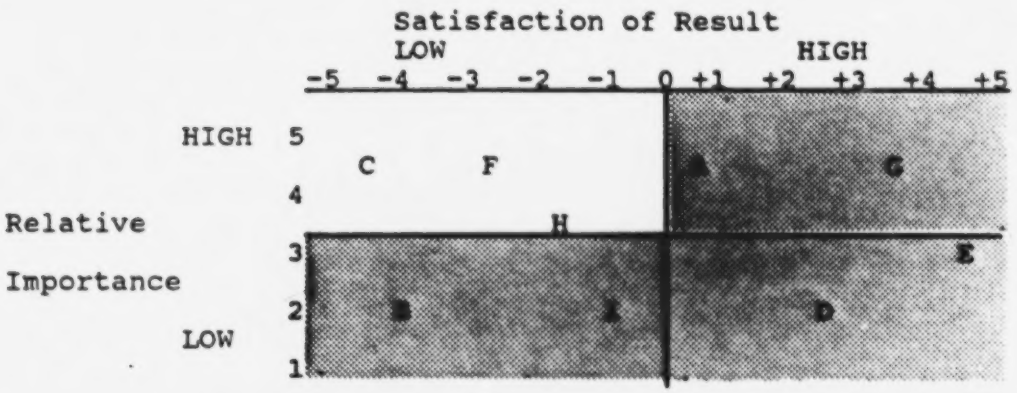
7. EVALUATING THE FINDINGS

The next step in the profiling process is for the profiling team to rate the narrative statements along two dimensions. These are an 11-point scale on satisfaction with results and a five-point scale on relative importance. There is a great deal of give and take as the team members try to reach agreement on these ratings for each statement.

It may be easy to think of the statements as falling along a two dimensional space with satisfaction of results one dimension and relative importance another. The faculty at "Sample School" listed nine statements, A through I. Each were rated on the dimensions of satisfaction of results and importance. The statements were then placed on the grid. The highest priority statements were rated high importance and low satisfaction. Figure 12 portrays the placement for all nine statements from "Sample School."

Figure 12

Final Placement of Narrative Statements



By portraying these statements on the two dimensional space, you can see that the first priority for goal setting will be those statements that have low satisfaction and high relative importance. Second priority could be those of low satisfaction and lower importance. The team will want to highlight those statements that describe high satisfaction and high importance. These are the statements that more than likely describe school success. Finally those that are found in the high satisfaction and lower importance may want to be tracked for potential impact in the future.

8. DEVELOPING GOALS

Once conclusions have been drawn attention can be turned to some specific suggestions and ideas for improving over the next few years. Here the whole school faculty may be involved in suggesting strategies. Again, this brainstorming can occur in the group with all ideas entertained and subsequently rated.

Goal statements focus on the outcome that you hope to achieve in the coming year. The statements themselves indicate the desired level of performance and will serve as a guide to planning school improvements. Both long- and short-term targets can be included.

guide to planning school improvements. Both long- and short-term targets can be included.

The goals, when developed, will also be prioritized. It may be that the school staff would desire to work on several goals or few, depending on the level of effort.

Sources of Information
Attitude Instruments

Educational Testing Service. Attitudes Toward School and School Adjustment - Grade 7 and Above. Princeton, New Jersey. 1985.

This is one of a series of three age focused bibliographies of a number of attitude measures that assess areas such as teacher-student relationships and attitudes toward various school subjects, school climate, peers and other school concerns.

Hoepfner, Ralph, et. al. The CSE Test Evaluation Series. Los Angeles: Center for the Study of Evaluation, UCLA.

This is a series of handbooks by grade level which contain ratings of tests used in schools. Ratings are offered on validity, appropriateness, administrative usability, and normed technical excellence. Instruments are categorized by school goals.

Kocher, A. T. and Belton-Kocher, E. B. An Annotated Bibliography of Resources Pertaining To The Assessment of Student Performance In The Cognitive, Affective and Psycho-motor Areas. Boulder, Colorado: Commission on Schools, North Central Association of Colleges and Schools. 1985.

Provides a separate section on instruments in such affective areas as: creativity, values and attitudes.

Mitchell James V. (Ed). The Mental Measurement Yearbook. Lincoln, Nebraska: University of Nebraska Press. 1985.

The Mental Measurement Yearbook (MMY) provides a description of tests in many fields including affective measures. The description includes information on norm groups, cost, time required, number of forms, and so on. Following the description is a listing of references which have used the instrument in research. An assessment of the instrument by reviewers completes the citation.

Mitchell James V. (Ed). Tests in Print III. Lincoln, Nebraska: The University of Nebraska Press. 1983

Tests in Print provides a complete listing of all published tests including those measuring attitudes. Indicates publisher, publishing date and references the reviews in MMY.

Northwest Regional Educational Laboratory, Test Center, 300 SW 6th Avenue, Portland, Oregon 97204.

A collection of instruments identified by category. Copies of the test and administration guide can be borrowed for examination. Instruments measuring student attitudes toward school, subject matter and self are included in this collection.

References

Anderson, Lorin W. Assessing Affective Characteristics in the Schools. Boston: Allyn and Bacon, 1981.

Arter, Judy. Assessing School and Classroom Climate: A Consumer's Guide. Portland. NWREL, 1986.

Bloom, Benjamin. Human Characteristics and School Learning. New York: McGraw-Hill, 1978.

Brookover, J., et. al. Self-Concept of Ability and School Achievement III. East Lansing: Michigan State University, 1967.

Brookover, J., et. al. School, Social Systems and Student Achievement: Schools Can Make A Difference. So. Hadley, Mass: Praeger, 1979.

Brookover, J., et. al. Creating Effective Schools: An In-Service Program for Enhancing School Learning Climate and Achievement. Holmes Beach, Florida: Learning Publications, 1982.

Henerson, M. E., Morris, L. L., and Fitz-Gibbons, C. T. How To Measure Attitudes. Los Angeles: Center for the Study of Evaluation, UCLA, 1978.

Walberg, Herbert (Ed). Evaluating Educational Performance. Berkeley: McCutcheon, 1974.